

REMARKS

The Examiners, Messrs. Eckerd and Nguyen, are thanked for the courtesy extended applicants' attorney during the interview of January 14, 2004, during which time differences between the claimed invention and the cited art were discussed. More particularly, as noted in the Interview Summary, applicant proposed adding "without a cooling element" and "which is higher than ambient air temperature" to claim 33 to more clearly distinguish from the cited art of Kitajima et al and the Examiners indicated that such amendment would be fully considered when officially filed in response to the Office Action. Furthermore, it is noted that applicants also pointed out that the English language abstract provided of the Kitajima et al reference did not provide an accurate translation of the element 5 which is a "Peltier" element which is representative of a heating and cooling member having the attendant disadvantages as described in the specification of this application, as will be more fully discussed below.

By the present amendment, independent claim 33, the only independent claim, has been amended to incorporate the features of dependent claim 34 therein, which is being canceled, while further defining the feature that the temperature control means includes a heating element "without a cooling element" for controlling temperature of the semiconductor laser and that a temperature module is provided for controlling the heating element on the basis of temperature information from the temperature sensor so as to maintain the semiconductor laser at a temperature which is higher than ambient air temperature of the semiconductor laser.

Applicants note that the Examiners questioned the maintaining of the semiconductor laser at a temperature which is higher than ambient air temperature and as described at page 13, lines 27 and 28, in recent years, a semiconductor laser having reliability at 85°C for 500,000 hours or more has been obtained and is used in the present embodiment. As is evident, such operational temperature is above the

ambient air temperature. Furthermore, as described in the specification of this application, the prior art controls the temperature of the laser by utilization of a heating and cooling element in the form of a Peltier element and the present invention is directed to the elimination of a Peltier element providing a cooling function, since such element is expensive and requires the volume of a semiconductor laser light source module to be increased, which makes miniaturization of the laser light source module for optical communication difficult. For example, as described at page 12, lines 19-27 of the specification, in the present embodiment, "in order to control temperature through the use of the heater 2, the size of the small-size plastic module can be made into 0.25cc, the same size as the transmitting module without Peltier. In contrast, the size of a transmitting module with Peltier becomes 2.5cc, about 10 times because a Peltier element and a radiation board for dissipating heat generated from the Peltier element are required." (emphasis added) Thus, applicants submit that there is clear basis for the amendment of claim 33 and applicants submit that claim 33, as amended, and the dependent claims patentably distinguish over the cited art as will become clear from the following discussion.

The rejection of claims 33-34 under 35 U.S.C. 102(b) as being anticipated by Kitajima et al and the rejection of claims 35-37, 39-42 under 35 U.S.C. 103(a) as being unpatentable over Kitajima et al and further in view of Palanisamy et al, such rejections are traversed insofar as they are applicable to the present claims, and reconsideration and withdrawal of the rejection are respectfully requested.

At the outset, as to the requirements to support a rejection under 35 U.S.C. 102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the

court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

With regard to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for

providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

As recognized by the Examiner at the interview, a Peltier element provides a cooling function in addition to a heating function and in accordance with the present invention, an elimination of cooling function or a cooling element is obtained, thereby reducing cost and enabling miniaturization. Although the Examiner contends that Kitajima et al discloses a heating element 5, which in the English language abstract provided, is described as a temperature element 5, applicants pointed out at the interview that a translation of the passage at page 545, right side, lines 10-15 of Kitajima et al is as follows:

[embodiment] Fig. 1 shows structure of one embodiment of this invention. This embodiment comprises light emitting semiconductor laser 1 for emitting light, semiconductor laser 2 for heating, stem 3, temperature sensor (thermistor) 4, temperature control element (Peltier element) 5, heat sink 6. (emphasis added)

That is, what is referred to in the English language abstract as a temperature element is in fact a "Peltier" element 5 which provides a cooling function, as recognized by the Examiner. It is noted that the Examiners indicated that a more accurate translation of Kitajima et al would be obtained to determine whether or not Kitajima et al actually discloses a "Peltier" element as element 5. As an aid to the Examiners, as pointed out at the interview, the English abstract for Japanese publication No. 07-302947 which is of record in this application, refers to a "Peltier"

element 26 which heats up or cools down the semiconductor laser 24 and it is apparent that the characters of the translated "Peltier" element 26 of this document correspond to that as found in the above noted translation of Kitajima et al. Thus, applicants submit that Kitajima et al does not disclose in the sense of 35 U.S.C. 102 or teach in the sense of 35 U.S.C. 103 a temperature control means including a heating element "without a cooling element", as claimed since Kitajima discloses a Peltier element. Furthermore, irrespective of the position by the Examiner, applicants submit that there is no disclosure or teaching in Kitajima et al in the sense of 35 U.S.C. 102 or 35 U.S.C. 103 of maintaining the semiconductor laser at a temperature which is higher than ambient air temperature of the semiconductor laser. See In re Robertson, supra. Thus, applicants submit that claim 33 and therewith the dependent claims recite further features which patentably distinguish over Kitajima et al in the sense of 35 U.S.C. 102 and 35 U.S.C. 103, such that all claims should be considered allowable thereover.

With respect to the addition of Palanisamy et al with Kitajima et al, applicants submit that Palanisamy et al does not overcome the deficiencies of Kitajima et al as pointed out above, and refers to the utilization of thermal electric coolers (TEC) and additionally fails to disclose control of the laser at a temperature which is higher than ambient temperature. Thus, applicants submit that all claims patentably distinguish over this proposed combination of references in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

In view of the above amendments and remarks, applicants submit that all claims present in this application should now be in condition for allowance, and issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing

of this paper, including extension of time fees, to Deposit Account No. 01-2135
(520.39419X00) and please credit any excess fees to such deposit account.

Respectfully submitted,



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